



JC02 Rec'd OCT/PTO 16 SEP 2005

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q88593

Su-Jong KIM, et al.

Appln. No.: 10/539,011

Group Art Unit: Unassigned

Confirmation No.: Unassigned

Examiner: Unassigned

Filed: June 15, 2005

For: PROMOTER FOR THE PRODUCTION OF HYALURONIC ACID CONTAINING  
GINSENOSIDE COMPOUND K

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. Korean Patent Application No. 2003-0065273 published August 6, 2003, to Il Hwa Co., Ltd., with English Abstract. This reference was identified in the International Search Report and was listed on the PTO/SB/08 A & B submitted to the U.S. Patent and Trademark Office on June 15, 2005.
2. Korean Patent Application No. 2003-0080429 published October 17, 2003, to Amorepacific Corporation, with English Abstract. This reference was identified in the International Search Report and was listed on the PTO/SB/08 A & B submitted to the U.S. Patent and Trademark Office on June 15, 2005.
3. Maria O. Longas et al., "Evidence for Structural Changes in Dermatan Sulfate and Hyaluronic Acid with Aging", *Carbohydrate Research*, Vol. 159, 1987, pp. 127-136.

4. Ilaria Ghersetich et al., "Hyaluronic Acid in Cutaneous Intrinsic Aging", *International Journal of Dermatology*, Vol. 33, No. 2, February 1994, pp. 119-122.
5. Paraskevi Heldin et al., "Effect of growth factors on hyaluronan synthesis in cultured human fibroblasts", *Biochem. J.*, Vol. 258, 1989, pp. 919-922.
6. Paraskevi Heldin et al., "Characterization of the molecular mechanism involved in the activation of hyaluronan synthetase by platelet-derived growth factor in human mesothelial cells", *Biochem. J.*, Vol. 283, 1992, pp. 165-170.
7. Masanobu Suzuki et al., "Stimulation of hyaluronan biosynthesis by platelet-derived growth factor-BB and transforming growth factor- $\beta$ 1 involves activation of protein kinase C", *Biochem. J.*, Vol. 307, 1995, pp. 817-821.
8. Evelina Tirone et al., "Hyaluronan Synthesis by Mouse Cumulus Cells Is Regulated by Interactions between Follicle-stimulating Hormone (or Epidermal Growth Factor) and a soluble Oocyte Factor (or Transforming Growth Factor  $\beta$ <sub>1</sub>)", *The Journal of Biological Chemistry*, Vol. 272, No. 8, February 21, 1997, pp. 4787-4794.
9. Raija Tammi et al., "Hyaluronate Accumulation in Human Epidermis Treated with Retinoic Acid in Skin Organ Culture", *The Journal of Investigative Dermatology*, Vol. 92, no. 3, March 1989, pp. 326-332.
10. Hiroshi Akiyama et al., "Analytical Studies on Hyaluronic Acid Synthesis by Normal Human Epidermal Keratinocytes Cultured in a Serum-Free Medium", *Biol. Pharm. Bull.*, Vol. 17, No. 3, 1994, pp. 361-264.
11. Shingo Sakai et al., "N-Methyl-L-Serine Stimulates Hyaluronan Production in Human Skin Fibroblasts", *Skin Pharmacol. Appl. Skin Physiol.*, Vol. 12, 1999, pp. 276-283.
12. Harry Sobel et al., "Effect of Estradiol on Hyaluronic Acid in the Skin of Aging Mice", *Steroids*, Vol. 16, No. 1, July 1970, pp. 1-3.
13. J. Peter Beltley et al., "Increased Hyaluronate and Collagen Biosynthesis and Fibroblast Estrogen Receptors in Macaque Sex Skin", *The Journal of Investigative Dermatology*, Vol. 87, No. 5, November 1986, pp. 668-673.
14. Kouji Miyazaki et al., "Genistein and Daidzein Stimulate Hyaluronic Acid Production in Transformed Human Keratinocyte Culture and Hairless Mouse Skin", *Skin Pharmacol. Appl. Skin Physiol.*, Vol. 15, 2002, pp. 175-183.
15. Paul H. Weigel et al., "Hyaluronan Synthases", *The Journal of Biological Chemistry*, Vol. 272, No. 22, May 30, 1997, pp. 13997-14000.

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16. Juha-Pekka Pienimäki et al., "Epidermal Growth Factor Activates Hyaluronan Synthase 2 in Epidermal Keratinocytes and Increases Pericellular and Intracellular Hyaluronan", *The Journal of Biological Chemistry*, Vol. 276, No. 23, June 8, 2001, pp. 20428-20435.
17. Hideo Hasegawa et al., "Main Ginseng Saponin Metabolites Formed by Intestinal Bacteria", *Planta Med.*, Vol. 62, 1996, pp. 453-457.
18. M. Karikura et al., "Studies on Absorption, Distribution, Excretion and Metabolism of Ginseng Saponins. V. The Decomposition Products of Ginsenoside Rb<sub>2</sub> in the Large Intestine of Rats", *Chem. Pharm. Bull.*, Vol. 38, No. 10, 1990, pp. 2859-2861.
19. Raul Fleischmajer et al., "Human Dermal Glycosaminoglycans and Aging", *Biochimica et Biophysica Acta*, Vol. 279, 1972, pp. 265-275.

One copy of each of the listed documents is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

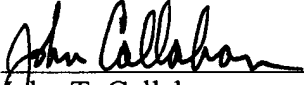
Respectfully submitted,

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

  
John T. Callahan  
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Date: September 16, 2005

Substitute for Form 1449 A &amp; B

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet

1

of

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Application Number	10/539,011
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Filing Date	June 15, 2005
First Named Inventor	Su-Jong KIM
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	Q88593

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			
		US			
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		Maria O. Longas et al., "Evidence for Structural Changes in Dermatan Sulfate and Hyaluronic Acid with Aging", <i>Carbohydrate Research</i> , Vol. 159, 1987, pp. 127-136	
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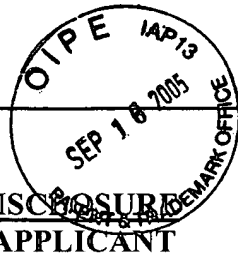
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